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We present sharp-shinned hawk (*Accipiter striatus*) migration data for Cape May, NJ, and Hawk Mountain, PA, from 1982 through 1993, together with Christmas Bird Count data for sharp-shinned hawks wintering north and south of Hawk Mountain. The results of an ongoing investigation into the general health and contaminant levels of migrant sharp-shins are also presented. The numbers of sharp-shinned hawks counted during 1992 at both sites were lower than in previous years. Organochlorine pesticides and PCBs continue to be recorded in adult sharp-shinned hawks collected in 1992 and 1993. We discuss the conservation implications of this work.

PEREGRINE FALCON MANAGEMENT IN ARIZONA

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The American peregrine falcon (*Falco peregrinus anatum*) is currently listed by the U.S. Fish and Wildlife Service as endangered. In 1983, 54 breeding sites were known in Arizona. The Arizona Game and Fish Department initiated a statewide survey in 1988. As a result, breeding activity has been documented at 181 locations. Occupancy and productivity data are collected using a protocol developed by Department biologists. Occupancy and young per monitored eyrie are 86 percent and 1.3, respectively, averaged over a 5-yr period. This information is used to protect nest sites and monitor peregrine falcon recovery in the southwest region. Data from two winter movements studies suggest Arizona's peregrine falcons migrate within or near the state borders, perhaps avoiding pesticide contamination hotspots located outside the U.S. Future management activities will be directed at developing a delisting monitoring protocol and includes collecting eggshell thickness and pesticide contamination information.

NESTING ECOLOGY AND THE REPRODUCTIVE PERFORMANCE OF MERLINS IN DENALI NATIONAL PARK AND PRESERVE, ALASKA

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A population of merlins (*Falco columbarius*) in Denali Park was intensively studied from 1990 through 1992. The objectives of this study were to report the broad nesting distribution, nest habitat use, and prey use of taiga merlins. Additionally, this study attempted to evaluate some factors which may influence population reproductive perfor-

mance. Nesting distribution was tied to black-billed magpie (*Pica pica*) nest clumps but merlins nested on the ground in a portion of the study area devoid of magpie nests. Ground nesting areas had less nesting fidelity than spruce stand nesting areas. Nesting habitat use during the study was 71.9% magpie nests, 19.3% ground sites and 8.8% other types. Prey use determined from remains at pluck perches consisted primarily of three sparrow species (40.7%) and two alpine passerines (10.2%). Avian density surveys allowed classification of prey species to broad habitat types. Low/medium shrub tundra was found to be the dominant habitat of prey utilized by merlins, both by frequency of occurrence and percent of total biomass of prey remains. Avian density estimates found low/medium shrub tundra to have the highest density of available merlin prey of the habitats available for hunting. Population reproductive performance was evaluated by various measures. Weather variables and an index to prey density were analyzed for their influence on population reproductive performance. The results of this study provide information for long-term monitoring of the population health of taiga merlins nesting in Alaska.

WATER USAGE PATTERNS AND WATER CONTENT OF PREY

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The use of an *ad libitum* water source by rehabilitating red-tailed hawks (*Buteo jamaicensis*) was investigated. The water content of prey available to these raptors was also determined. If a water source is not a necessity, it could be removed from the bird's cage decreasing the chances for the propagation and spread of pathogenic bacteria. Understanding the water intake needs of a raptor could be beneficial for care of rehabilitating and captive birds. Water usage behavior was videotaped by a camera focused on the available water source. Utilization of the water source consisted of drinking and bathing on both feeding and fast days during the warmest days sampled. Although no pattern between prey deprivation and water utilization emerged, a relationship between water utilization and temperature did show. Mice and small rats were subjected to three treatments (recently killed, frozen 1 wk and frozen 3 wk). The mean water content of the rodents after subsection to treatments was determined by drying the rodents to a constant mass. Water content was investigated as a fraction of the initial body weight (%WCON). The freezer treatments did not significantly affect the mean %WCON in the rodents. Raptor centers or private rehabilitators that store prey in frosted freezers need not be concerned with water loss from prey due to freezer storage up to 3 weeks. The mean %WCON differed significantly between the mice and small rats although approximately two-thirds of each rodent's body weight is water. The water content of three mice approximates that of one small rat.